REMARKS/ARGUMENTS

Claims 17-20 and 22-27 stand rejected in the outstanding Official Action. Claim 22 has been amended and therefore claims 17-20 and 22-27 are the only claims remaining in this application.

Claim 22 is objected to as allegedly containing new matter. As will be seen, the objected to and claimed steps (a), (b), (f), (g), (i) and (j) are all clearly disclosed in Applicants' specification and claims as initially filed.

Claim 22 step "(a) placing an object having an associated magnetic field on the supporting structure at the drilling location" - is disclosed in Applicants' originally submitted Figure 1 and in the accompanying specification description at page 6, lines 24-26 wherein it is stated "a cylindrical magnetic object 5 is placed on the rib foot 4 such tat the central axis 5a of the cylindrical magnetic object 5 coincides with the central axis of the desired bolt hole."

Claim 22, step "(b) locating a position sensor on the wing skin, the position sensor comprising first and second magnetic field sensing devices, said first magnetic field sensing device located at a first position and the second magnetic field sensing device located at a second position, said second position different from said first position" - Figure 1 and its accompanying description at page 6, lines 20-21 state "Figure 1 shows a Hall Effect sensor device 1 positioned above a wing skin 2." Also, Figure 3 shows a plurality of magnetic field sensing devices at different locations and is discussed on page 7, lines 19-22, wherein it is stated "the Hall Effect sensors 6(a - d) to 9(a - d) each output a voltage that is linearly related to the component of magnetic field perpendicular to the plane of the cross-shape formed by the sensor blocks 6, 7, 8

and 9." This discussion and Figures 1 and 3 clearly show a position sensor which comprises a plurality of magnetic field sensing devices located at different positions.

Claim 22, step "(f) sensing a first signal related to the magnetic field at the first position from the first magnetic field sensing device, and using the first calibration to derive a first measured magnetic field from the first signal" - The Examiner's attention is directed to originally filed claim 16 and steps (a) and (c). Step (a) "sensing a first signal related to the magnetic field at the first position from the first magnetic field sensing device" teaches the first part of claim 22, section (f), and claim 16, section (c) "calibrating the first magnetic field sensing device, thereby deriving a first measured field from the first input signal" teaches the second portion of claim 22, section (f), i.e., "using the first calibration to derive a first measured magnetic field from the first signal."

Typographical errors noted in claim 22, section (g) have been corrected in the above amendment. However, the step of claim 22, section (g) now reads "sensing a second signal related to the magnetic field at the second position from the second magnetic field sensing device, and using the second calibration to derive a second measured magnetic field from the second signal." The Examiner's attention is directed to originally filed claim 16 and steps (b) and (d). Step (b) "sensing a second signal related to the magnetic field at the second position from the second magnetic field sensing device" teaches the first part of claim 22, section (g), and claim 16, section (d) "calibrating the second magnetic field sensing device, thereby deriving a second measured field from the second input signal" teaches the second portion of claim 22, section (g), i.e., "using the second calibration to derive a second measured magnetic field from the second signal."

Step "(i) maneuvering the position sensor on the wing skin towards the calculated most like position" - The Examiner's attention is directed to Applicants' originally filed specification, page 8, lines 12-14, which state "the Hall Effect senor device 1 may then be moved to a new position and the calculation repeated. These steps are repeated until the target is located on the axis 5a of the cylindrical magnetic object 5."

Step "(j) repeating steps (f) to (i) above, until the drilling location is determined" - The Examiner's attention is directed to page 8, lines 12-14 as noted above with respect to claim 22, section (i), and the Examiner will note the reference to "these steps are repeated until the target is located . . . ." Additionally, it is noted that page 6, lines 22-24 state "the object of the invention is to locate precisely the desired position of the bolt such that a bolt hole may be drilled." Similarly, on page 1, lines 9-12, it is stated "one example of such a manufacturing application is found in the aerospace industry when assembling a wing skin and a wing box where it is essential to determine accurately where to drill attachment holes through the wing skin and into the supporting feet of a rib of the wing box."

In view of the above detailed discussion of the exact location of support for each of the questioned sections in claim 22, it is submitted that the originally filed application more than sufficiently provides antecedent basis for the method steps recited in claim 22 and any further rejection under 35 USC §132(a) is respectfully traversed.

Claim 22 also stands rejected under 35 USC §112 (first paragraph) as allegedly failing to comply with the written description requirement. As noted in the above detailed discussion, the limitations of steps (a), (b), (f), (g), (i) and (j) of claim 22 are clearly described in Applicants'

originally filed specification and drawings and any further rejection under 35 USC §112 is respectfully traversed.

Claims 17-20 and 22-27 stand rejected under 35 USC §101 as allegedly being directed to non-statutory subject matter. Applicants respectfully traverse the Patent Office position that a method of determining a drilling location does not produce any tangible results. Determining where to correctly drill a hole in a wing skin would be the difference between a fastener applied through that hole properly fastening the wing skin to a wing rib and a hole and fastener which misses the rib altogether. Thus, the tangible result is determining a correct drilling location.

There is nothing in 35 USC §101 which prohibits a method of determining a location, quantity, etc. from being patentable subject matter, and the Patent Office position requiring some "tangible result" is unsupported by the statute.

However, in order to expedite prosecution of this application, Applicants have amended independent claim 22 to add step (k), i.e., "drilling said attachment hole at said drilling location." This obviously utilizes the determined drilling position to actually drill the attachment hole, thereby obviating any further rejection under 35 USC §101.

Minor Amendments to Claim 22

Applicants have made minor amendments to claim 22 to change the reference from "a bolt hole" to "an attachment hole" to be more in consistence with the originally filed specification at page 1, lines 9-12, which references the desire to "determine accurately where to drill attachment holes through the wing skin . . . ." Applicants also correct an error, as noted above, in claim 22, section (g), and it is noted that the support for correcting this error is set out in originally filed claim 16, steps (b) and (d). In effect, these are mere typographical errors being

corrected. The addition of the drilling step is clearly supported in Applicants' specification, page 6, lines 22-24 and page 1, lines 9-12.

Therefore, the above amendments to claim 22 do not add new matter or add additional limitations requiring further consideration and/or search.

Entry of the Amendment Under Rule 116

Entry of the above amendment pursuant to the provisions of 37 CFR 1.116 is respectfully requested. The change of the description from "a bolt hole" to "an attachment hole" does not change the scope of the method of determining a drilling location on the wing. The correction in claim 22, section (g) of the typographical errors do not constitute new matter and are clearly supported in Applicants' originally filed claim 16. The addition of the "drilling step" is responsive to the Patent Office allegation that claim 22 is directed to non-statutory subject matter. However, this obvious final step comprising the tangible result of correctly locating the drilling location is clearly supported by the specification as filed.

The Examiner's withdrawal of previous rejections under 35 USC §102 is very much appreciated. The above minor amendments to claim 22 are believed to accommodate and obviate all pending bases for rejection and given that there is no new rejection under 35 USC §102 or §103, it is clear that the application is in condition for allowance. Entry of this amendment placing the remaining claims in allowable condition would obviate the need for appeal and further prosecution. Accordingly, under the provisions of 37 CFR 1.116, entry of the above amendment is respectfully requested.

Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that claims 17-20 and 22-27 are in condition for allowance and notice to

that effect is respectfully solicited. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, she is respectfully requested to contact Applicants' undersigned representative.

Respectfully submitted,

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